	Application No.	Applicant(s)
Notice of Allowability	09/525,707	DENNEAU ET AL.
	Examiner	Art Unit	
	David E. England	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *11/17/2004*.

2. ☒ The allowed claim(s) is/are *1-9*.

3. ☒ The drawings filed on *3/14/2000, 8/13/2003, 3/10/2004* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

       3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
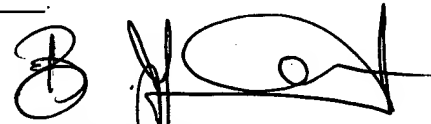
    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

       1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

    Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

BUNJOB JAROENCHONWANIT
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided by

37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no·

later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Frank DeRosa, Reg. No. 43,584 on May 9, 2005.

IN THE CLAIMS

Please cancel claim 22 without prejudice or disclaimer.

Pleas amend claims 1 – 5 as follows:

1. (Currently Amended) A method for routing packets on an array of N

processors connected in a nearest neighbor configuration, comprising the steps of:

for each end processor of each row and column of the array, connecting an unused

output[[s]] of an the end processor to an corresponding unused input[[s]] of the same

end processor so as to create a wrapped path at each end processor of the array; and

for each axis required to directly route a packet from a source processor to a

destination processor in the array,

determining whether a result of directly sending a packet from an initial

processor to a target processor along said axis is less than or greater than N/2

moves along said axis, respectively, the initial processor being the source

~~processor in a first axis, the target processor being the destination processor in a last axis;~~

~~directly sending the packet,~~ when the result is less than N/2 moves, directly sending the packet from the initial processor to the target processor along said axis without traversing a wrapped path of an end processor of said axis; and

~~indirectly sending the packet so as to follow at least one of the wrapped paths,~~ when the result is greater than N/2 moves, indirectly sending the packet from the initial processor to the target processor along said axis by traversing a wrapped path of an end processor of said axis. ~~wherein the packet is sent to one of the end processors and routed around the wrapped path of the one end processor to change the direction of the packet's propagation towards the destination processor.~~

2. (Currently Amended) The method according to claim 1, wherein when routing a packet from a source processor to a destination processor requires routing along an x-axis and a y-axis, the packets are first routed along the x-axis, and then the y-axis.

3. (Currently Amended) The method according to claim 1, ~~further comprising the step of randomly sending the packet using either of said sending steps;~~ wherein when the result is equal to N/2 moves and N is an even number, then either directly or indirectly sending the packet from the initial processor to the target processor along said axis.

4. (Currently Amended) The method according to claim 1, wherein indirectly

sending the packet from the initial processor to the target processor along said axis said

indirectly sending step comprises the step of initially sending the packet along said axis

from the initial processor in an opposing direction with respect to the target processor,

traversing following the wrapped path of a first end processor, proceeding through the

array of processors along said axis toward a second end processor, traversing following

the wrapped path of the second end processor, and proceeding along said axis to the

target processor.

5. (Currently Amended) The method according to claim 1, wherein the step of

indirectly sending the packet from the initial processor to the target processor along said

axis by traversing a wrapped path of an end processor of said axis comprises further

comprising the step of the target processor receiving the packet upon a second pass

thereby, when the packet is sent indirectly and the packet follows at least one wrapped

path.

Reasons for Allowance

2.   The following is an examiner's statement of reasons for allowance: the closest

prior art of record (Birrittella et al., U.S. Patent No. 5,737,628) does not teach nor suggest

in detail the array of end processors having the end processors of each row and column

having wrapped paths that connect an unused output of a end processor to an unused

input of the same end processor, being done to every end processor in the array, as argued

by the Applicant (see Remarks dated 11/17/2004, page 5 and 6; Specification dated

03/14/2000, pages 16 – 21; and Drawings dated 03/10/2004, Figure 4 of Applicant's

enabling portions of the specification and drawings). Birrittella only teaches a array of

processors that connect unused outputs of end processors to different unused inputs of

other end processors, creating a circle or a torus shaped network. Furthermore,

Applicant's other enabling portions further state that packets will be routed along an axis

in a specific direction depending on whether the moves from an initial processor to a

target processor along said axis is less than or greater than N/2 moves along said axis, N

equaling a number of processors. Where if the result is less than N/2 moves, the initial

processor will directly send the packet to the target processor along said axis without

traversing a wrapped path of an end processor of an axis. Furthermore, if the result is

greater than N/2 moves, indirectly sending the packet from the initial processor to the

target processor along said axis by traversing a wrapped path of an end processor of said

axis, as argued by the Applicant, (Remarks dated 11/17/2004, page 5 and 6; Specification

dated 03/14/2000, pages 18 – 21, Amended Specification dated 03/10/2004 page 3 and 4;

and Drawings dated 03/10/2004, Figure 4, Drawings dated 03/14/2000, Figures 5 and 6

of Applicant's enabling portions of the specification and drawings). Birrittella only

teaches packets traveling in plus or minus directions with no teaching on the direction

depending on whether the moves from an initial processor to a target processor along said

axis is less than or greater than N/2 moves along said axis, N equaling a number of

processors. So as indicated by the above statements, Applicant's arguments have been

considered persuasive, in light of the claim limitations as well as the enabling portions of

the specification.

3.   The dependent claims further limit the independent claims and are considered

allowable on the same basis as the independent claim as well as for the further limitations

set forth. Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

4.   Claims 1 – 9 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to David E. England whose telephone number is 571-272-

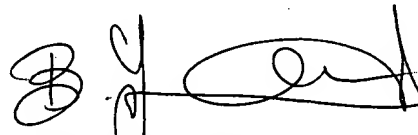3912. The examiner can normally be reached on Mon-Thur, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

David E. England
Examiner
Art Unit 2143

De

BUNJOB JAROENCHONWANIT
PRIMARY EXAMINER